

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In the Application of:

Jeffrey Arnold

Application No.: 10/623,433

Filed: July 18, 2003

For: ELECTRONIC SIGNAL  
PROCESSOR

Examiner: Devona E. Faulk

Group Art Unit: 2615

Attorney Docket No.: 16464US01

**DECLARATION OF INVENTOR JEFFREY ARNOLD**  
**UNDER 37 CFR § 1.132**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Examiner Faulk:

I, Jeffrey Arnold, declare as follows:

1. I am the inventor of the above-identified patent application.
2. I earned a B.S. in Mathematics from the University of Illinois at Urbana-Champaign in 1992.
3. For the past 15 years I have been engaged in developing circuitry for analog electronic signal processing.
4. The Office Action of July 18, 2007 rejects claims 70-80, including independent claims 70 and 76, under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Further, the Office Action of July 18, 2007 reject claims 70-89 under 35 U.S.C. § 112, second paragraph, as being indefinite. Claims 70-89 include independent claims 70, 76, and 81, but claim 81 and its dependents have been canceled.

5. I respectfully disagree with the rejections set forth above with regard to independent claims 70 and 76, and their respective dependents. Consequently, I have set forth below the location of and support for all of the claim elements of claims 70 and 76, as reflected in the specification as originally filed. In light of the support and explanation below, I respectfully submit the claims 70 and 76 comply with the written description requirement and are not indefinite.
- 6.0 With regard to the support for the elements of claim 70, I note the following:
  - 6.1 The input terminal for filter network 44 in Figure 3 is terminal 51 from paragraph [0041], and its output terminal is terminal 85 from paragraph [0044]. Therefore the input port for filter network 44 is defined by the two terminals 51 and ground, and its output port is defined by the two terminals 85 and ground.
  - 6.2 The two potentiometers 68 and 73 are stated to be user-adjustable to change the gain of filter network 44 in paragraph [0043].
  - 6.3 Each filter network included in each of said 'first filter network set' and said 'second filter network set' is a possible operating configuration of filter network 44 in Figure 3. We say that if a network includes a 'first potentiometer' then it's included in the 'first filter network set', and if it includes a 'second potentiometer' then it's included in the 'second filter network set'. For definiteness we'll say that potentiometer 73 is the 'first potentiometer', and that potentiometer 68 is the 'second potentiometer'. As noted in paragraph [0042], rotary switch 55 selects one of capacitors 56-63. Once it has made a selection then as noted in paragraph [0043] the foot-operated switch 75 selects from two networks to determine an operating network.
  - 6.4 Additionally, as noted in paragraph [0043], one of these selectable networks includes potentiometer 73, our 'first potentiometer', and so is in our 'first filter network set', and the other selectable network includes potentiometer 68, our 'second potentiometer', and so is included in our 'second filter network set'. Suppose rotary switch 55 selects capacitor 58. Also suppose switch 75 selects the network which includes potentiometer 73. This network is in our 'first filter network set', and since this network is part of filter network 44, we see that this configuration of filter network 44 is included in our 'first filter network set'. Similarly, when switch 75 selects the network which includes potentiometer 68, then the resulting

configuration of filter network 44 is included in the 'second filter network set'. So, we've shown that the rotary switch 55 selecting capacitor 58 creates one filter network in the 'first filter network set' and one filter network in the 'second filter network set'. Now suppose rotary switch 55 selects capacitor 59. Then we add one more filter network to the 'first filter network set' and we add one more filter network to the 'second filter network set'. These two new filter networks are different than the two obtained from the selection of capacitor 58, because as stated in paragraph [0049] each of the capacitors 56-63 has a unique capacitance value. This fact is also illustrated by Figure 5 which shows three different frequency response graphs of filter network 44 for three different capacitor selections made by rotary switch 55. So, with each new capacitor selection that rotary switch 55 makes we obtain 1 additional network in each of the 'first filter network set' and the 'second filter network set', and so by allowing rotary switch 55 to select capacitors 58, 59, 60 and 61 we obtain four filter networks in each of the 'first filter network set' and the 'second filter network set', and each of these eight filter networks is a unique configuration of filter network 44.

- 6.5 Now regarding rotary switch 55, whenever the rotary switch 55 selects a particular capacitor, then as noted above it also determines two configurations of filter network 44, and we call one of these configurations our 'first selected network'. In Figure 3 we'll say the 'first selected network' is the configuration of filter network 44 which occurs when switch 75 is moved to its opposite position. As noted in paragraph [0043] this 'first selected network' includes potentiometer 73 and so is included in the 'first filter network set'. Also note that this 'first selected network' is not operating in Figure 3, because the 'foot-operated switch' 75 hasn't selected it.
- 6.6 Now regarding the 'foot-operated switch' 75, in paragraph [0043] it's noted that switch 75 can select the network that includes potentiometer 68, and so this operating configuration of filter network 44 is included in the 'second filter network set'. Also in paragraph [0043] it's noted that, when switch 75 is moved to its opposite position in Figure 3, then it selects the operating configuration of filter network 44 that includes potentiometer 73, which we recall is our 'first selected network'.
- 7.0 With regard to the support for the elements of claim 76, I note the following:

- 7.1 The input terminal for filter network 44 in Figure 3 is terminal 51 from paragraph [0041], and its output terminal is terminal 85 from paragraph [0044]. Therefore the input port for filter network 44 is defined by the two terminals 51 and ground, and its output port is defined by the two terminals 85 and ground.
- 7.2 The two potentiometers 68 and 73 are stated to be user-adjustable to change the gain of filter network 44 in paragraph [0043].
- 7.3 Each filter network included in each of said 'first filter network set' and said 'second filter network set' is a possible operating configuration of filter network 44 in Figure 3. We say that if a network includes a 'first potentiometer' then it's included in the 'first filter network set', and if it includes a 'second potentiometer' then it's included in the 'second filter network set'. For definiteness we'll say that potentiometer 73 is the 'first potentiometer', and that potentiometer 68 is the 'second potentiometer'. As noted in paragraph [0042] rotary switch 55 selects one of capacitors 56-63. Once it has made a selection then as noted in paragraph [0043] the foot-operated switch 75 selects from two networks to determine an operating network.
- 7.4 Additionally, as noted in paragraph [0043] one of these selectable networks includes potentiometer 73, our 'first potentiometer', and so is in our 'first filter network set', and the other selectable network includes potentiometer 68, our 'second potentiometer', and so is included in our 'second filter network set'. Suppose rotary switch 55 selects capacitor 58. Also suppose switch 75 selects the network which includes potentiometer 73. This network is in our 'first filter network set', and since this network is part of filter network 44, we see that this configuration of filter network 44 is included in our 'first filter network set'. Similarly, when switch 75 selects the network which includes potentiometer 68, then the resulting configuration of filter network 44 is included in the 'second filter network set'. So, we've shown that the rotary switch 55 selecting capacitor 58 creates one filter network in the 'first filter network set' and one filter network in the 'second filter network set'. Now suppose rotary switch 55 selects capacitor 59. Then we add one more filter network to the 'first filter network set' and we add one more filter network to the 'second filter network set'. These two new filter networks are different than the two obtained from the selection of capacitor 58, because as stated in paragraph [0049] each of the capacitors 56-63 has a unique capacitance value. This fact is also illustrated by Figure 5 which shows three different frequency response graphs of filter network 44 for three different capacitor selections

made by rotary switch 55. So, with each new capacitor selection that rotary switch 55 makes we obtain 1 additional network in each of the 'first filter network set' and the 'second filter network set', and so by allowing rotary switch 55 to select capacitors 58 and 59 we obtain two filter networks in each of the 'first filter network set' and the 'second filter network set', and each of these four filter networks is a unique configuration of filter network 44.

- 7.5 Now to see that the said 'first filter network set' and the said 'second filter network set' have at least two filter networks in common, we note from paragraph [0043] that both networks therein are connected to node 65, and also that the therein said first network includes potentiometer 68, and that the therein said second network includes potentiometer 73. Now an electrical network is any collection of electrical components that are connected or coupled together. Therefore any two networks that are connected together form another network. So, in Figure 3 the shown operating configuration of filter network 44 includes both potentiometers 68 and 73 since they're in two networks that are connected together at node 65. Therefore this configuration of filter network 44 is included in both of our said 'first filter network set' and our said 'second filter network set'. Now suppose switch 75 is moved to the position opposite of that shown in Figure 3. Again, both of potentiometers 68 and 73 are included in the resulting configuration of filter network 44 since each is included in a network that is connected to node 65, and therefore this configuration is also included in both of our said 'first filter network set' and our said 'second filter network set', and so we've shown that the two filter network sets have at least two filter networks in common.
- 7.6 Now regarding rotary switch 55, whenever the rotary switch 55 selects a particular capacitor, then as noted above it also determines two configurations of filter network 44, and we call one of these configurations our 'first selected network'. In Figure 3 we'll say the 'first selected network' is the configuration of filter network 44 which occurs when switch 75 is moved to its opposite position. As noted in paragraph [0043] this 'first selected network' includes potentiometer 73 and so is included in the 'first filter network set'. Also note that this 'first selected network' is not operating in Figure 3, because the 'foot-operated switch' 75 hasn't selected it.

- 7.7 Now regarding the 'foot-operated switch' 75, in paragraph [0043] it's noted that switch 75 can select the network that includes potentiometer 68, and so this operating configuration of filter network 44 is included in the 'second filter network set'. Also in paragraph [0043] it's noted that, when switch 75 is moved to its opposite position in Figure 3, then it selects the operating configuration of filter network 44 that includes potentiometer 73, which we recall is our 'first selected network'.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully submitted,

Date: October 14, 2007

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